

**RHODE ISLAND
EXECUTIVE CLIMATE CHANGE COUNCIL**

**A RESILIENT RHODE ISLAND:
BEING PRACTICAL ABOUT CLIMATE CHANGE**

**PRELIMINARY REPORT
TO
GOVERNOR LINCOLN D. CHAFEE**

PURSUANT TO EXECUTIVE ORDER 14-01

MAY 2014



RECOMMENDATIONS: KEY PRINCIPLES

RI is committed to adopting a statewide climate change resiliency program that

1. defines its mission as **practical problem-solving**, not philosophical or even scientific debate
2. emphasizes **both mitigation and adaptation** as necessary elements on an ongoing basis, and optimizes strategies that produce benefits in both areas
3. improves **coordination and collaboration** between state government agencies, using existing authorities and programs to the extent possible, without a net increase in government bureaucracy
4. improves coordination and collaboration among local, state and federal government
5. improves services provided by state government agencies **without a net increase in regulatory process**
6. engages **both the public and private sectors** in developing and implementing strategies, and offers practical incentives and mechanisms for public-private partnerships to work
7. is (and asks participating entities to be) **entrepreneurial** in looking for the most effective, efficient and affordable ways to achieve its goals and objectives; dares to restructure and streamline authorities or programs when and where appropriate to produce better results more quickly
8. recognizes that all areas of the state are affected by climate change and extreme weather events, and is structured so as to **serve the whole state**
9. recognizes there are **populations** and geographic areas in the state **that are particularly vulnerable**, for various reasons, and makes it a priority to identify and address such vulnerabilities in a timely and equitable manner
10. makes effective communications a top priority and develops **a partnership-based communications program** that
 - a. does not just focus on communicating “down” but enables civic conversation and debate by and among affected communities, groups and citizens, and ensures that they can communicate “up” into planning and decision-making processes
 - b. coordinates “public messaging” (non-emergency) from state agencies around climate and resiliency
 - c. makes up to date and reliable, scientific, technical and other information available to various user categories, in formats tailored to those categories
 - d. assists in improving emergency response communications, especially among jurisdictions utilizes state-of-the-art, web-based and other programs and technologies to enhance quality, accessibility, level of engagement, as well as resilience.

DRAFT ACTION PLAN - ORGANIZATION

- **GOALS (1-8)**
- **Objectives** under each Goal **(1.1-8.2)**
- **Actions** under each Objective (1.1.1-8.1.2)
What, who, when and how under each Action
OPR = office with primary responsibility; **OCR** = office(s) with coordinating responsibilities

example:

GOAL 1: LEAD BY EXAMPLE

Objective 1.2 *Incorporate climate change resiliency into government operations at all levels, implement Lead by Example programs, measure and track performance*

Action 1.2.3: Develop and incorporate a set of resiliency criteria for inclusion in this year's capital planning process.

OPR
Responsibility: RIEMA/OMB
Action Officer: Jamia McDonald
Michelle Burnett

OCR CRMC

When Criteria developed by 6/1/2014 and distributed to state agencies by 7/1/2014

How Memo from OMB Director outlining the policy behind the instructions and the criteria that will be used to weight capital project requests

RECOMMENDATIONS: *GOALS*

1. Lead by Example
2. Collaborate with Local Government, Federal Government, Private Sector and Higher Education
3. Pursue Economic Opportunities
4. Accelerate Vulnerability Assessments
5. Increase Resilience through Mitigation
6. Increase Resilience through Adaptation
7. Coordinate Scientific and Technical Support
8. Communicate Effectively

RECOMMENDATIONS: GOALS AND OBJECTIVES

Goal 1: Lead by Example

- 1.1 **Governance** – facilitate prioritization, coordination, collaboration (resilience as decision-making principle for agencies, coordinating council, lead in governor’s office, lead in each agency, interagency teams as needed; tracking by OMB/performance management, planning and coordination support by statewide planning)
- 1.2 Incorporate resiliency (mitigation and adaptation) into **government operations** at all levels; track and **measure performance using resiliency metrics**
- 1.3 Coordinate, integrate and/or network data collection, analysis, modeling, mapping activities among state agencies (*see also Goal 7*)

Goal 2: Collaborate with Local Government, Federal Government, Private Sector and Higher Education

- 2.1 **Cities and towns have easy access** to reliable, scientific and technical information (*see also Goal 7*)
- 2.2 All cities and towns have up to date Hazard Mitigation Plans and Local Comprehensive Plans
- 2.3 Provide **timely guidance and technical assistance**, with support from academic institutions
- 2.4 Public and private sector resources are combined to facilitate access to information, programs, assistance
- 2.5 Public and private sector expertise is combined to explore/develop **new financial strategies** to fund mitigation, adaptation and innovation

Goal 3: Pursue Economic Opportunities

- 3.1 Combine public and private sector leadership and expertise to identify and develop economic opportunities associated with developing greater resiliency (e.g., in fields like science and technology, engineering, architecture and design, green infrastructure, renewable energy)

RECOMMENDATIONS: GOALS AND OBJECTIVES

Goal 4: Accelerate Vulnerability Assessment

- 4.1 Coordinate and expedite assessments for geographic areas and populations of particular concern, economic sectors, and key infrastructure (such as water, wastewater (including on-site wastewater treatment), storm water, waste management, transportation, energy, communication, healthcare, education, housing, food supply), to the extent not already assessed
- 4.2 Public and private sector leadership, expertise and resources are combined to assess vulnerabilities as well as means to mitigate them, agree on cost-effective strategies, and pursue opportunities to strengthen the RI economy through resiliency
- 4.3 Ongoing evaluation through monitoring, tracking and updating

Goal 5: Increase Resilience through Mitigation - protect, reduce risk and create new opportunity

- 5.1 Adopt ***emission reduction targets***
- 5.2 Adopt clean energy strategies that meet security, cost-effectiveness and sustainability criteria
- 5.3 Optimize ***energy efficiency*** in electric, thermal and transportation sectors
- 5.4 Increase use of ***renewable energy and clean fuels***
- 5.5 Pursue ***clean energy industry growth*** opportunities
- 5.6 Address non-energy emissions from waste and agriculture
- 5.7 Promote smart land-use, biomass-retention, and other carbon-fixing measures

Goal 6: Increase Resilience through Adaptation - protect, reduce risk and create new opportunity

- 6.1 Improve emergency preparedness and incorporate adaptation into response and recovery where possible
- 6.2 Infrastructure: water, wastewater (including on-site wastewater treatment), storm water, waste management, transportation, energy, communication, healthcare, education, housing, food supply, etc.
- 6.3 Public Health
- 6.4 Economic Assets
- 6.5 Natural Resources

RECOMMENDATIONS: GOALS AND OBJECTIVES

Goal 7: Coordinate Scientific and Technical Support

- 7.1 Integrate, coordinate and/or network data collection, analysis, modeling and mapping, combining expertise and resources from public and private sectors, including academic institutions for the purpose of supporting policy-development, planning, decision-making and projects
- 7.2 Ensure convenient and reliable access for state and local planners, decision-makers, researchers, students, stakeholders
- 7.3 Provide clear guidance and standards for use of scientific and technical information in planning, decision-making, applications
- 7.4 Establish forum(s) to facilitate information-sharing by policy- and decision-makers, planners, business leaders/owners, stakeholders and others, and to provide feedback loop

Goal 8: Communicate Effectively

- 8.1 Provide ***easy access to up-to-date, reliable information***
- 8.2 Develop a ***partnership-based, interactive communications program*** through which citizens, businesses, planners and decision-makers exchange information and ideas about the challenges and opportunities associated with climate change and resilience
- 8.3 Conduct and support ***outreach, public education and training*** in various sectors, at different levels

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

LEGISLATION:

- Pass Climate Change Resilience legislation in the current session. Add consideration of climate change and resiliency to powers and duties of all state agencies, including quasi-public ones. Adopt greenhouse gas reduction targets for 2020, 2035 and 2050 of 10%, 45% and 80% below 1990 levels, respectively. Establish council to coordinate climate change and resiliency related programs and activities among state agencies; and to promote intergovernmental as well as public-private and cross-sector partnerships and collaborations, including partnerships with academic institutions. (Goals 1, 2, 3, 4, 5, 6, 7)
- Pass legislation this session (H7791/S2439) that will allow greater procurement by Rhode Island of regional renewable energy, including large scale hydro and wind energy, and improve the regional energy transmission infrastructure. (Goals 1, 3, 5, 6)
- Pass legislation (H7991/S2692) that will expand markets, create jobs for Rhode Islanders and accelerate generation and use of renewable energy by updating the licensing laws to remove barriers for local renewable energy installations by renewable energy businesses, electricians and general contractors. (Goals 2, 3, 5)
- Pass legislation (H7727/S2690) that will extend and expand the Rhode Island distributed generation growth program, which will increase local renewable energy development by 160 MW, spread out over 5 years, through a tariff-based program. (Goals 2, 3, 5)
- Approve budget article (H7133, Article 5, Section 1, Project 4) recommending a Clean Water, Open Space and Healthy Communities Bond providing new capital funding for green infrastructure projects to address storm water, dam repair and removal, protection and restoration of floodplains and natural shorelines, improving infrastructure to treat wastewater and abate water pollution, brownfield redevelopment, and other projects to increase community resilience. (Goals 2, 3, 6)

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 1: Lead by Example

- 1.1.2 Establish climate change as decision-making principle for all state agencies, including quasi-public agencies
- 1.1.3 Designate senior-level leads in Governor's office and
- 1.1.4 in each agency
- 1.2.1 Integrate climate change into each functional element of State Guide Plan
- 1.2.3 Include resiliency criteria in this year's capital budget planning process
- 1.2.6 Benchmark energy efficiency program for state facilities and set energy use reduction targets
- 1.2.7 Revise Transportation Improvement Plan selection process to include climate change resilience criteria
- 1.3.3 Adopt statewide planning criteria for Sea Level Rise (SLR), riverine flooding, and frequency/intensity of storms
- 1.4.1 Develop strategic plan by end of 2014 to guide state for next 5 years

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 2: Collaborate with Local Government, Federal Government, Private Sector and Higher Education

- 2.1.2 Establish a Resilient RI clearinghouse web site for (in the first instance) municipal planners
- 2.2.1 Develop planning guidance for cities and towns to complete and/or update Hazard Mitigation Plans, including recommendations for coordination with neighboring towns
- 2.3.1 Provide standard maps, criteria and guidance relating to scenarios involving sea level rise, storm surge, riverine flooding, frequency and intensity of extreme weather events, heat, air quality, water- and air-borne diseases, etc.
- 2.3.2 Provide guidance and technical resources to cities and towns to set and achieve clean energy goals, i.e. goals for reduced energy consumption, decreased carbon emissions, increased renewable energy, and environmentally-friendly transportation and land use systems; include guidance for updating and streamlining local permitting
- 2.4.1 Create or use an existing public-private partnership to deliver a one-stop, consolidated concierge service to provide homeowners as well as small businesses with easy access to energy programs
- 2.5.1 As part of Resilient Economy Collaborative, create team with experts from financial sector and Treasurer's Office, to develop plan to attract private capital to provide long-term, sustainable financing for energy efficiency and renewable energy programs and projects, as well as non-energy mitigation and adaptation projects
- 2.5.2 As part of Resilient Economy Collaborative, create team with experts from financial and utility sectors, as well as Treasurer's Office, to explore/develop new, sustainable financial strategies for public utilities, including drinking water, wastewater, storm water, etc., to cover costs associated with adaptation

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 3: Pursue Economic Opportunities

- 3.1.1 Convene Economic Resiliency Collaborative to follow up on findings and recommendations of *Economic Intersections of Rhode Island* (Feb. 2014) and *Understanding the Opportunity and Impact of Climate Variability* (April 2014)
- 3.1.2 Make test sites available for piloting of resiliency-related innovation

See also Actions 2.5.1, 2.5.2, 4.2.1, 5.4.1, 5.4.2, 5.5.1, 6.2.6, 6.4.1,

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 4. Accelerate Vulnerability Assessments

- 4.1.1 Establish one or more core, interdisciplinary, rapid assessment teams, preferably with private sector participation. Prioritize and conduct assessments on regular schedule
- 4.1.2 Conduct risk assessment along state highway corridors for storm water inundation, impacts of downed trees, utilities, etc.
- 4.1.5 Work with a science team to develop statewide heat island maps (coordinated with flood zones)
- 4.1.7 Complete RI Ports Assessment
- 4.1.8 Complete a housing vulnerability assessment for structures in coastal and riparian zones
- 4.1.9 Complete a vulnerability assessment of the State's historic and cultural resources
- 4.1.10 Require all updates of elements of State Guide Plan to consider vulnerability of populations, natural or built environment, cultural and historic resources, infrastructure etc. to impacts associated with climate change or variability and, if necessary, to include or incorporate by reference a vulnerability assessment
- 4.2.1 Establish working groups that will conduct assessments for prioritized sectors of the economy, e.g., small business, ports and marine trades, agri- and aquaculture, manufacturing, tourism. Assessments should address vulnerabilities and economic impact, options to mitigate impact, options to improve preparedness, response and recovery, and economic opportunities associated with design, engineering, technological and other skills and capabilities that can improve resilience.

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 5. Increase Resilience through Mitigation

- 5.2.1 Finalize and adopt the update to the State Energy Plan; include Lead by Example actions such as: developing long-term targets and a plan for net zero energy usage in state facilities through a combination of energy efficiency upgrades, renewable energy and conservation effort; and mitigating transportation energy impacts by requiring reductions in Vehicle Miles Traveled (VMT) by state employees and expanding the use of alternative fuel and low emission vehicles in state fleets.
- 5.3.2 Form working group to develop sustainable funding mechanism for energy efficiency programs for unregulated fuels and for transportation sector
- 5.3.3 Develop comprehensive strategy and action plan to reduce Vehicles Miles Traveled (VMT) by end of 2014
- 5.3.4 Develop RI implementation plan for 8-state Zero Emission Vehicle (ZEV) policy and action plan
- 5.4.1 Reduce GHG emissions, increase use of renewable energy and improve resilience by expanding distributed energy (DG) program
- 5.5.1 Develop comprehensive market development strategy for stimulating the adoption of renewable thermal fuels

(see also 2.3.2 and 2.4.1)

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 6. Increase Resilience through Adaptation

- 6.2.1 Ensure that public water utilities with infrastructure deemed to be highly or critically vulnerable evaluate adaptation options, including retrofitting, relocation or abandonment
- 6.2.3 Develop Transportation Asset Management Plan that includes adaptation strategies and measures to strengthen resilience of transportation system under projected SLR, storm surge, riverine flooding, wind damage and associated impact scenarios
- 6.2.4 Conduct review of current natural gas infrastructure repair and replacement program from a GHG mitigation and adaptation perspective and develop recommendations
- 6.2.6 Assess the opportunity, costs, and benefits of deploying resilient microgrids at critical infrastructure to maintain services during power outages or severe weather events
- 6.3.1 Complete Climate and Health Profile, identifying priority health impacts from climate change and recommending adaptation strategies
- 6.5.2 Develop a statewide coastal wetland monitoring, protection and restoration strategy to help lower the rate at which habitat, ecosystem resilience and shoreline protection are being lost, and to develop effective mitigation and adaptation strategies.

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 7. Coordinate Scientific and Technical Support

- 7.1.1 Establish (or designate an existing coordinating entity to serve as) a Science and Technical Advisory and Coordinating Committee to
- (1) keep the Executive Climate Change Council or its successor coordinating council abreast of important developments in scientific and technical information relating to climate change and resiliency,
 - (2) explore and provide advice regarding opportunities to provide timely support for key policy and management decisions by aligning academic research around issues of resiliency;
 - (3) inventory the scientific and technical work being done by public and private sector entities and evaluate options to coordinate or integrate/consolidate such work in order to achieve greater efficiency, save resources, provide better services, etc.; and
 - (4) make recommendations and provide policy advice regarding priorities from its perspective, including priorities for research needs and planning thresholds.
- 7.4.1 Strengthen and expand existing collaborative monitoring program. Convene joint meeting of Science and Technical Advisory and Coordination Committee (STACC, Action 6.1.1) and Environmental Monitoring Collaborative (EMC) to develop new list of climate change related key indicators for which baseline monitoring needs to be conducted, and to evaluate capacity of EMC and its partners to conduct such monitoring.
- 7.4.2 Coordinate data collection and analysis to improve understanding of the relationship between climate-related changes in the ecosystem and the abundance and distribution of priority fish species (such as lobster, winter flounder, summer flounder, squid, and black sea bass).

RECOMMENDATIONS: *SELECTED ACTION ITEMS*

Goal 8. Communicate Effectively

- 8.1.1 Develop web site in partnership with nonprofit private sector that aggregates and/or links to best available information about climate change, mitigation, adaptation, resilience, best practices, etc.; and that provides forum for interactive communication (blogs, town meetings, etc.)
- 8.3.1 Develop interagency program that can be delivered in modules as part of state outreach initiative or in response to requests from communities, businesses, organizations